Strategic Goal: Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Pollution prevention and risk management strategies aimed at cost-effectively eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work, and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

BACKGROUND AND CONTEXT

EPA uses a number of approaches to protect Americans' and the nation's fragile ecosystems from the risks of exposure to pesticides or toxic chemicals. The underlying principle of the activities incorporated under this goal is the application of pollution prevention. Preventing pollution before it does damage is cheaper and smarter than costly cleanup and remediation, as evidenced with Superfund and PCB cleanups.

In 1998, facilities reported a total of 10.2 billion pounds of pollutants released, treated or combusted for energy. Reducing waste, and reducing the toxic chemicals that are used in industrial processing, protects the environment and also lowers costs for industry. Pollution prevention involves changing the behavior of those that cause the pollution and fostering the wider use of preventive practices as a means to achieve cost effective, sustainable results.

In Goal 4 the Agency targets certain specific chemicals of especially high risk as well as the full range of pollutants addressed by the pollution prevention program. Many chemicals are particularly toxic to children. Lead, for instance, damages the brain and nervous system and can result in behavioral and learning problems if blood levels are too high. Despite great progress over the last twenty years, there are still over 1 million American children with elevated blood levels of lead. Asbestos, PCB's and other chemicals present in our buildings and in the environment pose risks to anyone exposed as well as to wildlife. For other common chemicals, we simply don't know what, if any, risks are present

MEANS AND STRATEGY

The diversity and fragility of America's environments (communities, homes, workplaces and ecosystems) requires EPA to adopt a multi-faceted approach to protecting all Americans from the threats posed by pesticide and toxic chemicals. The underlying principle of the activities incorporated under this goal is the application of pollution prevention.

Preventing pollution before it does damage to the environment is cheaper and smarter than costly cleanup and remediation, as evidenced with Superfund and PCB cleanups. Pollution prevention involves changing the behavior of those that cause the pollution and fostering the wider use of preventive practices as a means to achieve cost effective, sustainable results.

Under this Goal EPA ensures that pesticides and their application methods not only result in safe food, but also cause no unnecessary exposure either to human health or to natural ecosystems. In addition to the array of risk-management measures entailed in the registration authorities under FIFRA for individual pesticide ingredients, EPA has specific programs to foster worker and pesticide-user safety as well as ground-water protection, and the safe, effective use of antimicrobial agents. These programs work to ensure the comprehensive protection of the environment and wildlife in general, endangered species in particular, and to reduce the contribution of particular pesticides to specific ecological threats such as endocrine disruption or pollutant loading in precise geographic areas.

Within this context, EPA pursues a variety of field activities at the regional, state and local levels, including the promotion of pesticide environmental stewardship programs with user groups as partners. Finally EPA promotes the use of sensible Integrated Pest Management (IPM) and the prevention of misuse in the panoply of uses within both the urban and rural environments.

Much remains to be done to safeguard our nation's communities, homes, workplaces and ecosystems. Preventing pollution through regulatory, voluntary, and partnership actions - educating and changing the behavior of our citizens - is a sensible and effective approach to sustainable development while protecting our nation's health.

Preventing pollution through partnerships is central to the Agency's Chemical Right-to-Know initiative in 2000. This new initiative will provide the public with information on the basic health and environmental effects of the 2,800 chemicals produced at the highest volumes in the U.S. Most Americans come into daily contact with many of these chemicals, yet relatively little is known about their potential impacts. Basic hazard testing information will be the focus of a high visibility, voluntary challenge program recognizing industry's contribution to the public knowledge base on these prevalent chemicals. Risks to children is a particular focus, and the Agency will supplement the information from industry with additional testing to identify and address any chemicals of special concern for children's health.

Also central to the Agency's work under this goal in 2000 will be increased attention on documenting and taking action to reduce risk from chemicals that persist, bioaccumulate or are highly toxic (PBT's) and from chemicals that have endocrine disruption effects. These chemicals have very high potentials for causing long-term damage to humans and to ecosystems. Accumulating in the food chain, often far from the source of initial exposure, and disrupting the life cycle and creation of healthy offspring, in essence these chemicals produce a multiplier effect that is difficult to halt once it is in action in the environment. Pollution prevention and controlling releases are the mainstays of protection, once these chemicals are correctly identified.

The Agency mixes both regulatory and voluntary methods to accomplish its job. For example, each year the New Chemicals program reviews and manages the risks of up to 2,000 new chemicals and 40 products of biotechnology that enter the marketplace. This new chemical review process not only protects the public from the immediate threats of harmful chemicals, like PCBs, from entering the marketplace but it has also contributed to changing the behavior of the chemical industry, making industry more aware and responsible for the impact these chemicals have on human health and the environment. This awareness has lead industry to produce safer Agreenerts alternative chemicals and pesticides. Fewer harmful chemicals are entering the marketplace and our environment today because of the New Chemical Program. Through our Design for the Environment program, today's EPA forms partnerships with

industry to find sensible solutions to prevent pollution. In one example, taking a sector approach, EPA has worked with the electronics industry to reduce the use of formaldehyde and other toxic chemicals from the manufacture of printed wiring boards.

In several cases achieving the strategic objectives under this goal is a shared responsibility with other federal and state agencies. For example EPA's role in reducing the levels of environmental lead exposure involves promotion of federal-state partnerships to lower specific sources of environmental lead, such as lead-based paint and other lead-content products. These partnerships emphasize public education and empowerment strategies, which fit into companion federal efforts (e.g., HHS and the Centers for Disease Control; HUD) to monitor and reduce environmental lead levels. Likewise, the results of EPA's efforts to reduce indoor air exposures are measured by public-health agencies. EPA focuses on specific agents (e.g., radon), on general categories of indoor facilities (schools, homes and workplaces), and on the characteristic risks presented in each category.

Intrinsic to the effort to prevent pollution is the minimization of the quantities of waste generated by industry, municipalities and hazardous-waste management operations. Strategies range from fostering recycling and other resource-recovery processes to broad-based campaigns to re-engineer the consumption and use of raw materials or personal conservation of resources.

Since this Goal focuses on how Americans live in communities, it features the particular commitment of promoting environmental protection in Indian country, as consistent with our trust relationship with tribes, and is cognizant of the nation's interest in conserving the cultural uses of natural resources.

Research

The human health and ecosystems research included in this objective is designed to provide direct support to EPA's regulatory program for pesticides and toxic substances. The information developed from application of human health research will significantly increase understanding of the impacts of specific pesticides and toxic substances on human health. Ecosystems research will help EPA develop the evaluative effects methods that are used in the regulation of toxic substances, including pesticides, in ecosystems. Test methods developed through this research program are incorporated in the existing compendium of test methods used to support Agency regulatory requirements.

EXTERNAL FACTORS

The ability of the Agency to achieve its strategic goals and objectives depends on several factors over which the Agency has only partial control or little influence. EPA relies heavily on partnerships with states, tribes, local governments and regulated parties to protect the environment and human health. In addition, EPA assures the safe use of pesticides in coordination with the USDA and FDA, who have responsibility to monitor and control residues and other environmental exposures.

EPA also works with these agencies to coordinate with other countries and international organizations with which the United States shares environmental goals. This plan discusses the mechanisms and programs that the Agency employs

to assure that our partners in environmental protection will have the capacity to conduct the activities needed to achieve the objectives. However, as noted, EPA often has limited control over these entities. In addition, much of the success of EPA programs depends on the voluntary cooperation of the private sector and the general public.

EPA's ability to achieve the goals and objectives is also predicated on an adequate level of resources for direct program implementation by EPA as well as for delegated programs. The objectives in this plan are based on current funding levels. If appropriations are lower or different from requested, some objectives may be difficult or impossible to achieve. Other factors that could delay or prevent the Agency's achievement of some objectives include: lawsuits that delay or stop EPA's and/or State partners' planned activities; new or amended legislation; and new commitments within the Administration. Economic growth and changes in producer and consumer behavior, such as shifts in energy prices or automobile use, could have an influence on the Agency's ability to achieve several of the objectives within the time frame specified.

Large-scale accidental releases (such as large oil spills) or rare catastrophic natural events (such as volcanic eruptions) could, in the short term, impact EPA's ability to achieve the objectives. In the longer term, new environmental technology, unanticipated complexity or magnitude of environmental problems, or newly identified environmental problems and priorities could affect the time frame for achieving many of the goals and objectives. In particular, pesticide use is affected by unanticipated outbreaks of pest infestations and/or disease factors, which requires EPA to review emergency uses to ensure no unreasonable risks to the environment will result. EPA has no control over requests for various registration actions (new products, amendments, uses, etc.), so its projection of regulatory workload is subject to change.

In the absence of regulatory authority and grants to states for indoor environment programs, the voluntary Federal indoor environments program relies heavily on state and local, private, and non-profit partnerships to implement and manage indoor environmental risk reduction activities/programs. Many of our partners and states have small programs that often make it difficult to achieve the desired level of results.

The Agency's ability to achieve its objective of decreasing the quantity and toxicity of waste depends in part on our state partners' commitment to this goal. To help address this potential issue, EPA is working with Environmental Council of States (ECOS) to develop core measures beyond FY 1998 and coordinating with states to develop, for example, the the RCRA Persistent, Bioaccumulative, and Toxics (PBT) list and other tools that will focus State activities on shared EPA and State goals.

In addition, recycling rates are affected by shifts in prices and potential regulatory changes to reduce or eliminate disincentives to safe recycling. While market forces have helped to achieve current rates, better markets for recycled products/recyclables/reusables are needed to encourage increased recycling rates and source reduction. EPA has worked with the Chicago Board of Trade and the Federal Environmental Executive and currently has several other ongoing projects that encourage market development.

Achieving our objective is based upon a partnership with Indian Tribal governments, many of which face severe poverty, employment, housing and education issues. Because Tribal Leader and environmental director support will be critical in achieving this objective, the Agency is working with Tribes to ensure that they understand the importance of having good information on environmental conditions in Indian country to meet

their and EPA needs. In addition, EPA also works with other Federal Agencies, Department of Interior (US Geological Survey, Bureau of Indian Affairs, and Bureau of Reclamation), National Oceanic and Atmospheric Administration, and the Corps of Engineers to help build programs on tribal lands. Changing priorities in these agencies could adversely affect their ability to work with EPA in establishing strategies and regulations that affect Indian Tribes.

Resource Summary

(Dollars in Thousands)

	FY 1999 Enacted	FY 2000 Request	FY 2000 Req. v. FY 1999 Enacted
Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems	**$237,789.8**	**$277,166.0**	**$39,376.2**
Reduce Public and Ecosystem Exposure to Pesticides	$43,178.2	$51,050.8	$7,872.6
Environmental Program & Management	$29,219.0	$37,125.2	$7,906.2
Science & Technology	$844.6	$811.0	($33.6)
State and Tribal Assistance Grants	$13,114.6	$13,114.6	$0.0
Reduce Lead Poisoning	$30,817.4	$29,213.5	($1,603.9)
Environmental Program & Management	$17,105.2	$15,501.3	($1,603.9)
State and Tribal Assistance Grants	$13,712.2	$13,712.2	$0.0
Safe Handling and Use of Commercial Chemicals and Microorganisms	$42,443.2	$56,874.1	$14,430.9
Environmental Program & Management	$31,206.6	$45,378.1	$14,171.5
Science & Technology	$11,236.6	$11,496.0	$259.4
Healthier Indoor Air	$29,629.4	$40,778.6	$11,149.2
Environmental Program & Management	$16,662.1	$30,816.3	$14,154.2
Science & Technology	$4,809.3	$1,804.3	($3,005.0)

Resource Summary (continued)	**FY 1999 Enacted**	**FY 2000 Request**	**FY 2000 Req. v. FY 1999 Enacted**
Building and Facilities	$0.0	$0.0	$0.0
State and Tribal Assistance Grants	$8,158.0	$8,158.0	$0.0
Improve Pollution Prevention Strategies, Tools, Approaches	$21,884.0	$25,116.1	$3,232.1
Environmental Program & Management	$15,884.5	$19,116.6	$3,232.1
State and Tribal Assistance Grants	$5,999.5	$5,999.5	$0.0
Assess Conditions in Indian Country	$50,985.1	$53,106.9	$2,121.8
Environmental Program & Management	$8,399.8	$10,521.5	$2,121.7
State and Tribal Assistance Grants	$42,585.3	$42,585.4	$0.1
Total Workyears:	1,124.9	1,117.9	-7.0

Strategic Objective: Reduce Public and Ecosystem Exposure to Pesticides

By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower-risk pesticides and pesticide management practices, improving education of the public and at risk workers, and forming "pesticide environmental partnerships" with pesticide user groups.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	**FY 2000 Request**
Pesticide Registration	$7,451.4	$10,365.0
Pesticide Reregistration	$4,856.0	$4,865.7
Endocrine Disruptor Screening Program	$267.8	$267.8
Agricultural Worker Protection	$4,365.2	$5,738.1
Pesticide Applicator Certification and Training	$5,313.6	$6,765.6
Pesticides Program Implementation Grant	$13,114.6	$13,114.6

Annual Performance Goals and Measures

PREVENTING HARMFUL PESTICIDES EXPOSURE

In 2000 Protect homes, communities, and workplaces from harmful exposure to pesticides and related pollutants through improved cultural practices and enhanced public education, resulting in a reduction of 5%, or cumulative 20% from 1994 levels in the incidences of pesticide poisonings reported nationwide.

In 1999 Protect homes, communities, and workplaces from harmful exposures to pesticides and related pollutants through improved cultural practices and enhanced public education, resulting in a cumulative reduction of 15% (1994 reporting base) in the incidences of pesticide poisonings reported nationwide.

Performance Measures:	**FY 1999**	**FY 2000**
Decrease in incidences of pesticide poisonings		5 Percent
Labor Population will be adequately trained		46% Trained

Baseline: The baseline is the 1994 level (15,824 incidences) of reported worker and household cases of acute pesticide poisoning reported to poison control centers participating in the national data collection system.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

The performance measures for this objective are program outputs for the Field and Environmental Stewardship programs and are used as an indirect measure of reducing risk. The number of workers suffering from adverse effects of pesticides may be derived from various sources such as poison control center data, public health system data, information gathered from the states and public health agencies. The labor population training data may be determined using information from USDA and States. The pesticides considered to be threats to groundwater have been identified and will be used as the base.

STATUTORY AUTHORITIES

Federal Fungicide, Insecticide and Rodenticide Act (FIFRA)

Federal Food, Drug and Cosmetic Act (FFDCA).

Food Quality Protection Act (FQPA) of 1996.

Clean Water Act

Strategic Objective: Reduce Lead Poisoning

By 2005, the number of young children with high levels of lead in their blood will be significantly reduced from the early 1990's.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Request
Lead Risk Reduction Program	$16,911.3	$14,986.3
Grants to States for Lead Risk Reduction	$13,712.2	$13,712.2

Annual Performance Goals and Performance Measures

LEAD-BASED PAINT ABATEMENT CERTIFICATION AND TRAINING

In 2000 Administer federal programs and oversee state implementation of programs for lead-based paint abatement certification and training in 50 states, to reduce exposure to lead-based paint and ensure significant decreases in children's blood levels by 2005.

In 1999 Complete the building of a lead-based paint abatement certification and training program in 50 states to ensure significant decreases in children's blood lead levels by 2005 through reduced exposure to lead-based paint.

Performance Measures:	**FY 1999**	**FY 2000**
Develop state programs for the training, accreditation and certification of lead-based paint abatement professionals.		30-35 States
Develop Federal training/accred./certif. program for States with no program	15 Programs	
A Federal training, accreditation and certification program will be established and administered in states which choose not to seek approval from EPA to administer		15-20 P rograms

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

The accomplishment of EPA's broader lead poisoning reduction goals (e.g., lead rule promulgation, certified training programs, completed technical reports, etc.) will be verified by realizing a significant reduction of children's blood lead levels compared to levels in the 1970's. For the past two decades, the National Center for Health Statistics (NCHS) has collected data on the general health of the nation's population through the National Health and Nutrition Examination Survey (NHNES).

The collection and laboratory analysis of children's blood for lead has been part of this program since its inception and has become the standard for the estimation of national blood lead averages. It is also the only national survey of children's blood lead levels. NCHS is preparing to begin another survey. Data collected by the HHS's National Center for Health Statistics (NCHS) will be used to measure the effectiveness of this national infrastructure, along with additional actions by other Federal agencies, in reducing childhood exposure to lead-based paint and decreasing the incidence of lead poisoning among children. NCHS' National Health and Nutrition Examination Survey (NHANES) will be used to estimate national blood lead levels in the US population. This survey is currently in the planning phases; data are expected to be available in 2002. Performance measures for that year will include a description of appropriate data collection and verification procedures for those data. The verification and validation of data from NHANES will be conducted by NCHS through a rigorous quality assurance program to ensure that the sample selected for examination is truly representative of the U.S. population and that laboratory analyses of collected blood samples are of known accuracy and precision. NCHS has over 20 years experience in conducting this survey and these analyses.

In addition, EPA will evaluate the effectiveness of regulations previously promulgated. Through mechanisms including focus groups and surveys, the Agency will measure awareness and any changes in behavior of the regulated community as a result of these regulations.

STATUTORY AUTHORITIES

Toxic Substances Control Act (TSCA) section 6 and TSCA Title IV (15 U.S.C. 2605 and 2681-2692)

Safe Drinking Water Act sections 1412 and 1417 (42 U.S.C. 300g-1, 300g-6)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Resource Conservation and Recovery Act (RCRA)

Strategic Objective: Safe Handling and Use of Commercial Chemicals and Microorganisms

By 2005, of the approximately 2,000 chemicals and 40 genetically engineered microorganisms expected to enter commerce each year, we will significantly increase the introduction by industry of safer or "greener" chemicals which will decrease the regulatory management by EPA.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Request
Endocrine Disruptor Screening Program	$1,257.4	$3,667.1
New Chemical Review	$13,409.6	$13,926.9
Existing Chemical Data, Screening, Testing and Management	$12,870.0	$23,045.6
National Program chemicals: PCBs, Asbestos, Fibers,and Dioxin	$3,011.9	$3,289.2

Annual Performance Goals and Performance Measures

NEW CHEMICALS AND MICROORGANISMS REVIEW

In 2000 Ensure that of the up to 1800 new chemicals and microorganisms submitted by industry each year, those that are introduced in commerce are safe to humans and the environment for their intended uses.

In 1999 Ensure that of the approximately 1800 new chemicals and microorganisms submitted by industry each year, those that are introduced in commerce are safe to humans and the environment for their intended uses.

Performance Measures:	**FY 1999**	**FY 2000**
TSCA Pre-Manufacture Notice Reviews	1800 Notices	1800 Notices

Baseline: Over 33,000 PMN's reviewed; increasing trends in number of 'greener' or safer chemcials reviewed. Develop an animal model to assess susceptibility of the immune system to environmental contaminants. 1 model developing

Research

RESEARCH ON COMMERCIAL CHEMICALS AND MICROORGANISMS

In 2000 Provide methods and models to evaluate the impact of environmental stressors on human health and ecological endpoints for use in guidelines, assessments, and strategies.

Performance Measures:	**FY 1999**	**FY 2000**
Develop an animal model to assess susceptibility of the developing immune system to environmental contaminants.	1 model	

Baseline: Performance Baseline: Methods and models are needed to evaluate the impact of environmental stressors on human health and ecological endpoints for use in guidelines, assessments, and strategies. Development of "formal" baseline information for EPA research is currently

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURE

Performance will be measured by the number of new chemical Pre-Manufacture Notice submissions (PMN's) that are determined by EPA to pose reduced risk relative to chemicals they replace and that are determined not to require EPA management controls. PMN submissions and determinations are tracked under formal EPA document management and decision-making systems to ensure compliance with statutory deadlines for Agency action. The Agreener the new chemical EPA receives for review, the more success achieved in protecting human health and the environment. Performance will also be measured by how much knowledge we gain in understanding the risks of toxic chemicals to human health and the environment. EPA will gain this knowledge through required and voluntary chemical testing by industry. When EPA identifies specific risks posed by toxic chemicals, performance will be judged by its success in mitigating risk through actions such as
labeling or restricting or banning the chemical or its use in certain products. These counts will be drawn from formal regulatory action tracking systems maintained by EPA that have thorough QA/QC procedures to ensure the integrity of the data maintained therein. Last, success will be judged by lowering risk through preventing pollution and achieving this through voluntary compliance over regulated controls.

The Chemical Right-to-Know initiative and the Endocrine Disruptor screening and testing project are both major efforts EPA is undertaking to ensure commercial chemicals are adequately tested for health and environmental effects and that this data is available to the public. Performance of the Chemical Right-to-Know initiative will be measured by tracking the number of chemicals for which EPA

has received commitments to complete screening-level testing from chemical manufacturers and by tracking the number of chemicals covered by regulations requiring chemical testing. Verification of program performance for the Endocrine Disruptor screening and testing program can be determined by tracking the number of chemicals that have been tested by EPA with the recommended protocols.

Most performance measures for FY2000 for PCBs and fibers, including asbestos, are program accomplishments that impact risk reduction. They include Agency rule makings for PCBs and for asbestos. Verification and validation of data takes place as a required part of the rulemaking procedure and accompanying formal risk assessment, as well as public notice and comment. The program will also develop a voluntary risk-reduction agreement with the refractory ceramic fiber (RCF) industry coalition as well as a strategy for assessing and managing the risks associated with exposure to other fibers. As part of the development of the voluntary with the RCF industry, appropriate quality assurance/quality control procedures will be established to ensure the collection of valid and verifiable data.

Due to the nature of analytical measurement of dioxin in environmental media, extra precautions are taken during field sample collection and laboratory analysis for dioxin. A very rigorous quality assurance/quality control program ensures that all attempts are made to eliminate contamination of samples during collection in the field and in the laboratory. This quality assurance/quality control plan also ensures that database development from laboratory analyses is accurate and verifiable. For PCBs commercial storage and disposal rates are tracked through a self reporting system by the industry for completion of the PCB Annual Report. These data are used to track the reduction of burden and costs of managing the safe disposal of PCBs.

Research

EPA has several strategies to validate and verify performance measures in the area of environmental science and technology research. Because the major output of research is technical information, primarily in the form of reports, software, protocols, etc., key to these strategies is the performance of both peer reviews and quality reviews to ensure that requirements are met.Peer reviews provide assurance during the pre-planning, planning, and reporting of environmental science and research activities that the work meets peer expectations. Only those science activities that pass agency peer review are addressed. This applies to program-level, project-level, and research outputs. The quality of the peer review activity is monitored by EPA to ensure that peer reviews are performed consistently, according to Agency policy, and that any identified areas of concern are resolved through discussion or the implementation of corrective action.

The Agency's expanded focus on peer review helps ensure that the performance measures listed here are verified and validated by an external organization. This is accomplished through the use of the Science Advisory Board (SAB) and the Board of Scientific Counselors (BOSC). The BOSC, established under the Federal Advisory Committee Act, provides an added measure of assurance by examining the way the Agency uses peer review, as well as the management of its research and development laboratories.

In 1998, the Agency presented a new Agency-wide quality system in Agency Order 5360.1/chg 1. This system provided policy to ensure that all environmental programs performed by or for the Agency be supported by individual quality systems that comply fully with the American National Standard, *Specifications and Guidelines for Quality Systems for Environmental Data*

Collection and Environmental Technology Programs (ANSI/ASQC E4-1994).

The order expanded the applicability of quality assurance and quality control to the design, construction, and operation by EPA organizations of environmental technology such as pollution control and abatement systems; treatment, storage, and disposal systems; and remediation systems. This rededication to quality provides the needed management and technical practices to assure that environmental data developed in research and used to support Agency decisions are of adequate quality and usability for their intended purpose.

A quality assurance system is implemented at all levels in the EPA research organization. The Agency-wide quality assurance system is a management system that provides the necessary elements to plan, implement, document, and assess the effectiveness of quality assurance and quality control activities applied to environmental programs conducted by or for EPA. This quality management system provides for identification of environmental programs for which QA/QC is needed, specification of the quality of the data required from environmental programs, and provision of sufficient resources to assure that an adequate level of QA/QC is performed.

Agency measurements are based on the application of standard EPA and ASTM methodology as well as performance-based measurement systems. Non-standard methods are validated at the project level. Internal and external management system assessments report the efficacy of the management system for quality of the data and the final research results. The quality assurance annual report and work plan submitted by each organizational unit provides an accountable mechanism for quality activities. Continuous improvement in the quality system is accomplished through discussion and review of assessment results.

STATUTORY AUTHORITIES

Toxic Substances Control Act (TSCA) section 4 , 5, 6, 8, 12(b) and 13 (15 U.S.C. 2603-5, 2607, 2611 and 2612)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Strategic Objective: Healthier Indoor Air

By 2005, fifteen million more Americans will live or work in homes, schools, or office buildings with healthier indoor air than in 1994.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	**FY 2000 Request**
State Radon Grants	$8,158.0	$8,158.0
Indoor Environments: ETS	$1,050.0	$2,194.3
Indoor Environments: Schools	$2,921.0	$9,946.7
Indoor Environments : Asthma	$1,135.5	$12,323.7
Indoor Air Research	$2,836.1	$0.0
EMPACT	$0.0	$0.0
Tribal Capacity	$0.0	$300.0

Annual Performance Goals and Performance Measures

HEALTHIER RESIDENTIAL INDOOR AIR

In 2000 890,000 additional people will be living in healthier residential indoor environments.

In 1999 700,000 additional people will live in healthier residential indoor environments.

Performance Measures:	**FY 1999**	**FY 2000**
People Living in Healthier Indoor Air	700,000 People	890,000 People

Baseline: Performance Baseline: 1. By 2000, increase the number of people living in homes built with radon resistant features to 2,885,000 from 600,000 in 1994. (cumulative) 2. By 2000, decrease the number of children exposed to ETS from 19,500,000 in 1994 to 18,055,000. (cumulative) 3. By 2000, increase the number of people living in radon mitigated homes to 1,490,000 from 780,000 from 1994. (cumulative)

HEALTHIER INDOOR AIR IN SCHOOLS

In 2000 2,580,000 students, faculty and staff will experience improved indoor air quality in their schools.

Performance Measures:	**FY 1999**	**FY 2000**
Students/Staff Experiencing Improved IAQ in Schools student		2,580,000

Baseline: Performance Baseline: The nation has approximately 110,000 schools with an average of 520 students, faculty and staff occupying them. The IAQ "Tools for Schools" Guidance implementation began in 1997, and the program's projection for 2000 alone is that an additional 2,500 schools will implement the guidance. (additional, not cumulative since there is not an established baseline for good IAQ practices in schools)

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

Radon

Progress on the number of homes tested for radon and the number of homes fixed if levels are elevated is assessed under a cooperative agreement between EPA and the Conference of Radiation Control Program Officials. The Agency surveys the radon industry to determine the amount of residential testing and mitigation completed and utilizes the results of an annual survey of home builders to assess the extent to which they are employing radon-resistant construction techniques.

ETS

To ascertain the number of children aged six and under exposed to ETS in their homes, the program utilizes the biennial survey conducted by the Conference of Radiation Control Program Directors.

Schools

The number of schools that implement the indoor air quality ATools for Schools kit is tracked through a centralized database where data are provided by program office staff, the Government Printing Office, national cooperative partners, contractor staff, and the EPA regional offices. In addition, the program accesses the National Association of Energy Service Companies database which tracks companies that have performed ventilation work in schools as well as public school student enrollment numbers.

Buildings

The first measure for large buildings is the characterization of 100 randomly selected office buildings, and is tracked by the program. The second measure is reported by the International Union of Operating Engineers (IUOE) as part their cooperative agreement with EPA. IUOE trains building engineers and then assesses their implementation of good IAQ management practices.

The third measure being developed is the Assessment of IAQ Practices in Large Buildings. This measure will determine the extent to which the EPA's IAQ guidance has been incorporated into building management practices throughout the nation and the barriers encountered. The Las Vegas laboratory also collects and tracks the number of samples and analyses from buildings where measures are collected.

STATUTORY AUTHORITIES

A Radon Gas and Indoor Air Quality Research Act of Title IV of the Superfund Amendments and Reauthorization Act (SARA)

Toxic Substances Control Act (TSCA)section 6 and TSCA Titles II and III (15 U.S.C. 2605 and 2641-2671)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Clean Air Act (CAA)

Safe Drinking Water Act (SDWA)

Strategic Objective: Improve Pollution Prevention Strategies, Tools, Approaches

By 2005, reduce by 25% (from 1992 level) the quantity of toxic pollutants released, disposed of, treated, or combusted for energy recovery. Half of this reduction will be achieved through pollution prevention practices.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Request
Design for the Environment	$4,554.0	$3,886.1
Pollution Prevention Program	$8,872.3	$9,581.2
Pollution Prevention Incentive Grants to States	$5,999.5	$5,999.5
Common Sense Initiative	$429.1	$501.8

Annual Performance Goals and Performance Measures

TOXIC RELEASE INVENTORY (TRI) POLLUTANTS RELEASED

In 2000 The quantity of Toxic Release Inventory (TRI) pollutants released, treated or combusted for energy recovery, will be reduced by 200 millions pounds, or 2%, from 1999 reporting levels.

In 1999 The quantity of Toxic Release Inventory pollutants released, treated or combusted for energy recovery will reduced by 200 million pounds, or two percent, from 1998 reporting levels.

Performance Measures:	**FY 1999**	**FY 2000**
Reduction of TRI pollutants released		200 million Pounds

Baseline: Estimated 1999 reporting of 10 billion pounds released.In 2000 Complete 21,000 Leaking Underground Storage Tank (LUST) Cleanups for a cumulative total of 246,000 cleanups since 1987.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

Toxics Release Inventory (TRI) data:

Industrial facilities in specified SIC codes are required to provide TRI data for chemicals listed by law or regulation. This information is provided on documents known as AForm R's. The data are estimates by the reporting facility of the quantities of toxic chemicals in production-related wastes that are released to the environment or otherwise managed as waste (including quantities disposed of, used for energy recovery, recycled or treated). Facilities also must report quantities that are released or managed as waste off-site as a result of remedial actions, catastrophic events, or one-time events not associated with production processes.

The source reduction performance measures (see Goal #1, above) rely on data reported by industrial facilities (on TRI Form R's) regarding any source reduction activities undertaken by the facilities during the reporting year, and the methods used to identify these activities. Facilities select the methods they use to estimate the reported quantities managed as waste, and the validity of the data depends on proper selection and application of the estimation methods as well as on the quality of the available data.

EPA conducts data quality site surveys to identify aspects of the TRI data reporting process that could be improved and to provide a quantitative assessment of the accuracy of data collected. The latest survey, completed in 1998, showed that errors in reporting source reduction activities varied by industry sector and resulted primarily from misinterpretations of key terms, particularly source reduction. The survey also suggested that source reduction activities may be somewhat under-reported through TRI, since the results of such activities are not subject to TRI reporting (hence there is less incentive to disclose the activities), and for other reasons.

The Agency is preparing to propose regulatory definitions of key terms under the Pollution Prevention Act in order to standardize the waste management data submitted by covered facilities. EPA will also prepare guidance to assist facilities in preparing their Form R's. This guidance will focus on the reporting elements required by the Pollution Prevention Act of 1990 and should be issued in the year 2000. Under the TRI program, the Agency also is expanding collection of information on toxic chemicals that persist and bioaccumulate in the environment (PBTs) and is proposing to lower the TRI reporting thresholds for all PBTs, as these chemicals are of concern even in relatively small amounts. Additionally, through a variety of other guidance documents (both general and industry-specific) and fact sheets in >Q and A= format relating to TRI reporting, the Agency expects to see an increase in the understanding of the source reduction aspects of TRI reporting, and a corresponding increase in its accuracy.

Also, EPA has initiated a project to develop a statistical model for purposes of measuring the effect of source reduction practices on the quantity of waste generated by facilities that are required to report TRI data. The model also will be helpful in characterizing the degree to which such facilities adopt waste management practices that move up in the waste management hierarchy (in order of preference: source reduction, reuse and recycling) from release to source reduction. In a GPRA context, it should be possible to use the model to help estimate the environmental results of pollution prevention practices.

In addition to the data reported under TRI, EPA will utilize data from a variety of other sources.

EPA's PBT program expects to draw upon National Health and Nutrition Exam Survey (NHANES) data, Integrated Atmospheric Deposition Network (IADN) monitoring data, a fetal cord monitoring study, and an EPA Office of Water (OW) fish tissue study, as these data sources become available. EPA's Design for Environment Program conducts an evaluation of the extent to which cleaner technologies have been adopted by each industry that takes part in the program, as each project is completed. This can be as simple as collecting data on the amount of a particular chemical used within an industry (for example, perchloroethylene used in dry-cleaning) or as challenging as surveying an industry's overall progress in installing newer, less polluting processes. Survey participants are typically small to medium-sized firms. While no single central database depository exists for all survey results, findings are frequently documented and incorporated into outreach materials for industry.

The performance measures related to the annual performance goals for (1) national action plans for PBT chemicals and (2) development of educational curricula (see above), are expressed as the completion of explicit tasks. Verification of these measures will require the objective assessment of completed tasks by program staff and management.

STATUTORY AUTHORITIES

Toxic Substances Control Act (TSCA) sections 4 and 6 and TSCA Titles II, III, and IV (15 U.S.C. 2605 and 2641-2692)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sections 3, 4, 5, 6, 11, 18, 24, and 25 (7 U.S.C. 136a, 136a-1, 136c, 136d, 136i, 136p, 136v, and 136w)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Clean Air Act (CAA) section 309 (42 U.S.C. 7609)

Clean Water Act (33 U.S.C. 1251-1387)]

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k

Strategic Objective: Decrease Quantity and Toxicity of Waste

By 2005, EPA and its partners will increase recycling and decrease the quantity and toxicity of waste generated.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Request
RCRA State Grants	$3,073.0	$3,073.0
Waste Minimization	$2,195.3	$2,943.2
Source Reduction	$2,728.8	$3,073.4
Recycling	$4,980.8	$5,079.3
Urban Environmental Quality and Human Health	$0.0	$0.0
Common Sense Initiative	$634.3	$477.8

Annual Performance Goals and Performance Measures

MUNICIPAL SOLID WASTE SOURCE REDUCTION

In 2000 Divert an additional 1% (for a cumulative total of 29% or 64 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.3 pounds per day.

In 1999 Maintain levels (for a cumulative total of 28% or 62 million tons) of municipal solid waste (MSW) diverted from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.3 pounds per day.

Performance Measures:	**FY 1999**	**FY 2000**
Millions of tons of municipal solid waste diverted.	62 tons	64 million tons
Daily per capita generation of municipal solid waste.	4.3 lbs. MSW	4.3 lbs. MSW

Baseline: 1990 levels established at 17% of MSW diverted and 4.3 pounds MSW per capita daily generation.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

Data for RCRA performance measures under this objective are tracked through a variety of systems, ranging from national databases managed by EPA to voluntary reporting from program partners to information collected by the Commerce Department. Appropriate verification and validation procedures are in place.

Monitoring national progress in reductions of PBTs will rely heavily on the Toxics Release Inventory (TRI) for establishing a baseline for tracking annual performance and measuring the reductions of a specific list of PBT chemicals in hazardous waste. The regulated industry reports the TRI data, and the Agency receives the reports and enters the data directly into the TRI. All applicable validation controls are in place for the TRI system.

Although there are some chemicals on this list that are not included in TRI reporting in 1991, some of these chemicals were either required to be reported in 1995 or will be added to the TRI in an upcoming rulemaking that expands reporting and lowers the reporting threshold for certain chemicals. There still remains a subset of chemicals (very small in number) that we will not have TRI information on. For these chemicals, EPA plans on using the Biennial Reporting Information, the 1986 RCRA Generator Survey, the National Hazardous Waste Constituent Survey (1996), and the RCRA Waste Code Crosswalk to establish a baseline.

Limitations of the TRI include: 1) not all sectors that generate hazardous wastes report in the TRI; and, 2) information that is reported is not directly related to the RCRA program. However these limitations are not of great concern.

Although all sectors that generate hazardous wastes do not report in TRI, the majority of waste (as discovered through analysis of Biennial Report System data) is generated by those sectors that do report to TRI and are the most consistent reporters in BRS as well as TRI. Secondly, although information reported in the TRI is not directly related to RCRA, EPA is able to identify those reporters in TRI that are also generators of hazardous wastes. Both these limitations are far outweighed by the strengths in TRI: 1) that data is collected annually and therefore will provide us with more trend analyses; 2) that data is collected not on waste streams, but on chemicals; 3) that improvements currently are being made to the systems and the reporting universe is expanding, including more reporting of use and release of chemicals of concern for which we have limited information. An upcoming TRI rulemaking will expand reporting of some chemicals and lower the report threshold of others. This will fill in some of the data limitations identified above.

Tracking the rate of recycling for hazardous waste will use information in the Biennial Reporting System (BRS), a national database which supports EPA's RCRA program. BRS is a biennial compilation of information supplied by hazardous waste handlers and provides data on types and amounts of waste handled, as well as how the waste is handled (e.g., disposed, recycled). EPA will track progress on increase of hazardous waste safely recycled using the BRS. The regulated industry reports the BRS data, and states and EPA regions quality check the data and enter it into the data base.

The BRS data system has validation/verification controls in place to help ensure that data is complete and accurate. The BRS data entry software includes a series of basic and advanced edits which check for completeness and accuracy. Additionally, EPA Headquarters runs BRS data quality verification reports and then coordinates with states and EPA regions to discuss

potential data errors. Analysis also is conducted on significant changes which have occurred since the last biennial report. Prior to issuing the final BRS report, a second set of BRS data quality verification reports are run and follow-on discussions to verify/validate data are conducted for those states with significant changes. BRS has a suite of user and system documentation which describes the overall administration of the data collection and management activities. Training on use of the systems is provided on a regular basis, usually annually depending on the nature of system changes and user needs.

In February 1997, EPA's Office of the Inspector General performed an audit of the Biennial Hazardous Waste Data. They made several recommendations which the Agency has acted on.

A limitation of the data available in BRS is that when a facility modifies its recycling or handling operation thereby becoming excluded from the definition of solid waste and/or changes its regulatory status so that future reporting is not required, that facility need no longer submit a biennial report. However, that same facility could still be recycling hazardous waste. This type of change may lead to an underestimating of the amount of hazardous waste safely recycled. The Agency is monitoring BRS submissions to identify facilities that reported in the previous cycle but not in the current cycle. EPA will use various analytical means to determine why reporting, either by the facility as a whole or of a particular waste stream, stopped.

Extensive improvements are underway for the RCRA national databases. The OSW Platform Conversion of national systems (RCRIS and BRS) will migrate data and interfaces to a more supportable database platform, using Internet based access methods. While the converted systems will retain the essential data characteristics of the current systems, the platform conversion will provide new user interfaces that will help improve the quality of the data as it is being created. In the longer term, the RCRA program currently is in the process of reinventing its information management needs and systems through a joint initiative with the states called WIN/INFORMED.

In the non-hazardous waste program, no national databases are in place nor planned. The baseline numbers for municipal solid waste source reduction and recycling are developed using a materials flow methodology employing data largely from the Department of Commerce and can be found in an EPA report titled ACharacterization of Municipal Solid Waste in the United States. The report, including the baseline numbers and current progress, is widely accepted among experts. Since the report is produced by EPA, no reporting from outside sources will be required. Quality assurance and quality control is provided by the Department of Commerce's internal procedures and systems. The report prepared by the Agency is then reviewed by a number of experts for accuracy and soundness.

Data limitations stem from the fact that the baseline and annual progress numbers are based on a series of models, assumptions, and extrapolations and, as such, is not an empirical accounting of municipal solid waste generated or recycled. Since these numbers are widely reported and accepted by experts, no new efforts to improve the data or the methodology have been identified or are necessary.

STATUTORY AUTHORITIES

Pollution Prevention Act (PPA)

Solid Waste Disposal Act as amended by the Hazardous and Solid Waste Amendments of 1984.

Toxic Substances Control Act (TSCA)

Strategic Objective: Assess Conditions in Indian Country

By 2003, 60% of Indian Country will be assessed for its environmental condition and Tribes and EPA will be implementing plans to address priority issues.

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Request
Tribal General Assistance Grants	$42,585.4	$42,585.4

Annual Performance Goals and Performance Measures

TRIBAL ENVIRONMENTAL BASELINES/ENVIRONMENTAL PRIORITIES

In 2000	20% of Tribal environmental baseline information will be collected and 20 additional tribes (cumulative total of 65) will have tribal/EPA environmental agreements or identified environmental priorities.
In 1999	10% of Tribal environmental baseline information will be collected and 10 additional tribes (cumulative total of 45) will have tribal/EPA environmental agreements or identified environmental priorities.

Performance Measures:	**FY 1999**	**FY 2000**
Tribal environmental baseline information collected	10 % Baseline	20 % Baseline
Tribes with Tribal/EPA environmental agreements or identified environmental priorities	10 Tribes	20 Tribes

Baseline: EPA will complete the design of a system to collect and manage data on environmental conditions in Indian country by the end of FY 1998. Data collection will begin in early FY 1999. In August 1998, a total of 35 tribes had EPA/Tribal Environmental Agreements or similar plans.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

The Agency biannually updates an internal database on the number of Tribes with delegated/approved environmental programs; the number of tribal environmental programs that EPA has delegated/approved; the number of Tribal/EPA Environmental Agreements; and the number of Tribes that have developed similar plans for environmental protection. The database is validated against Agency Headquarters and Regional office records.

The Agency will work with its Indian Tribal partners to collect baseline environmental information as part of the overall strategy for conducting comprehensive environmental assessments in Indian Country. This information will allow EPA and Tribes to better gauge the environmental outcomes of our partnership for public health and environmental protection. Much of the information for the baseline assessment will come from existing EPA data sources and will conform to Agency quality assurance standards. New data provided by the tribes or collected specifically for the baseline assessment project will be subject to QA/QC review.

STATUTORY AUTHORITIES

Indian Environmental General Assistance Program (GAP) Act as amended (42 U.S.C. 4368b)